

REPORT UPON THE PROPOSED COLVILLE FOREST RESERVE, WASHINGTON

Location

The north half of the Colville Indian Reservation lies in Ranges 27 to 40 east and Townships 35 to 40 north of Willamette Meridian, Washington. It is bounded on the north by the international boundary line, on the east by the Columbia River, on the west by the Okanogan River, and on the south is separated from the south half of the Colville Indian Reservation by the east and west line between Township 34 north and Township 35 north.

Area

The total area examined approximates 1,539,710 acres, of which six tracts, comprising ?? acres, are recommended for reservation. These tracts are as follows:

	Acres
San Poil Division	
Hull Division	
Buckhorn Division	
Goosmus Division	
Pierre Division	
Bonaparte Division	
Total	

Area examined but found unsuitable for forest Reserve purposes:

Acres

Topography

From the valley of the Okanogan eastward to the Columbia the general character of the country is mountainous. The narrow pine and larch-covered bench lands along the Columbia and Kettle rivers from Harvey to Cascade City, B.C., rise abruptly to the dignity of mountains and stretch back in rugged spurs to the Kettle River Range. Between these spurs streams of considerable magnitude pour down from the snows and copious rains of the higher slopes. Beyond this range the country descends more gently to Curlew Valley, but immediately west of the lake again rises boldly to the peaks and domes of the Republic Range, culminating in Mount Bonaparte, from which by gentle slopes and terraces and cut by numberless coulees the surface descends to Osoyoos Lake and the valley of the Okanogan. This valley has an elevation of less than 1,000 feet and is the lowest point on the international boundary between the Red River of the North and the Pacific Coast.

Kettle River, a splendid stream navigable except for occasional rapids, flows down for British Columbia at Midway to receive the waters of Toroda and Curlew creeks, and again enters Canada at Danville. At Cascade City, 15 miles east of Grand Forks, B.C., it crosses the boundary for the second time and flows southeast through a deep, narrow gorge to the Columbia. Between the Kettle River and Northport, and extending into Canada, lies a nameless mass of mountains, a part of which I have recommended for reservation as the Pierre Division of the Colville Forest Reserve.

Climate

Reliable weather data for this district can not be obtained, but the climate of the bench lands along the Columbia and Okanogan rivers may be compared with that of Wenatchee Valley. Irrigation is necessary for the safe maturing of crops on the lower slopes, but the labor of applying water is abundantly repaid by the yields of grains, vegetables, berries, and fruits, including the choicest of apples and peaches. The climate of even Curlew Valley is not rigorous and stock winter out on the range, but the climate of that section immediately east of Osoyoos Lake deserves special mention. Here the prevailing wind is from the northwest, coming through the gap in British Columbia north of the Cascade Mountains. It is a mild, moist wind from the Pacific, and has a decided effect upon agriculture in this district and east as far as the Kettle River Range. The effect seems to be due more to slight evaporation and heavy dews than to precipitation, as rains are very infrequent in the summer except on the higher slopes. Heavy snowfalls accumulates to a great depth and lasts well on into the summer.

The Forest

Bordering the open valleys and ascending the mountains to a height of 3,000 to 4,000 feet the forest consists of yellow pine and larch. Below 3,500 - foot contour line pine is the more valuable species, above that elevation larch of excellent form becomes the dominant tree, red fir being more or less common throughout, but particularly on the northern slopes. The best stands of pine are found in the valleys of Trout Creek, West Fork of Sans Poil, and along Kettle River. Cedar assumes commercial importance only in the Pierre Division, where it occurs in swamps and along nearly every stream. Above 4,000 feet pure stands of lodgepole pine occupy large areas, but in the basins and draws it is replaced by spruce, both Engelmann and Colorado blue. Lowland fir and Alpine fir are found only along the higher ridges.

Reproduction in the burns is everywhere good, and on the higher part of the eastern slope of Kettle River Range is the best I have ever seen. To the eastward of Midnight Mountain there are thousands of acres of burned-over land where seedling red fir, lodgepole pine, Engelmann spruce, Colorado blue spruce, and larch about 7 years old cover the ground, forming a perfect mat of vegetation.

Except along high ridges where snow lies late in the summer, conditions are favorable for forest development and height growth is notably rapid.

While the timber is poor in quality over large areas, nearly all of the forest land carries merchantable timber and some localities are promising fields for the lumberman. The following estimates show the quantity and accessibility of each species in the localities indicated.

Merchantable Timber in approved Colville Forest Reserve

Locality	Accessibility	Yellow Pine	Larch	Red fir	Lodgepole Pine	Total
West Fork Sans Poil River	Road to Sans Poil	100,000,000	30,000,000	30,000,000	20,000,000	180,000,000
Mt. Hull Division	Roads to Oroville and Kipling	25,000,000	15,000,000	20,000,000	5,000,000	65,000,000
Siwash Creek	Road to Antoine Valley	10,000,000	8,000,000	8,000,000	4,000,000	30,000,000
Antoine Creek	Road to Antoine Valley	4,000,000	3,000,000	3,000,000	2,000,000	12,000,000
Bonaparte Creek	Road to Bonaparte Valley	25,000,000	15,000,000	20,000,000	5,000,000	65,000,000
Meyers Creek	Road to Chesaw	10,000,000	8,000,000	12,000,000	5,000,000	35,000,000
Toroda Creek	Road to Kettle River	40,000,000	20,000,000	40,000,000	20,000,000	120,000,000
Tonata Creek	Road to Kettle River	16,000,000	16,000,000	24,000,000	8,000,000	64,000,000
North slope of Buckhorn Ridge	Road to Kettle River	8,000,000	8,000,000	12,000,000	4,000,000	32,000,000
Goosmus Division	Road to Kettle River	11,000,000	23,000,000	23,000,000	11,000,000	68,000,000
Trout Creek	Road to Curlew Valley	25,000,000	20,000,000	25,000,000	10,000,000	80,000,000
Granite Creek	Road and flume to Republic	40,000,000	45,000,000	40,000,000	15,000,000	140,000,000
Copper Creek and 2nd West Fork	Road or flume to Sans Poil	20,000,000	20,000,000	20,000,000	10,000,000	70,000,000
Rabbit Creek	Flume to Sans Poil	30,000,000	25,000,000	20,000,000	5,000,000	80,000,000
O'Brien Creek	Road to Republic	25,000,000	15,000,000	15,000,000	5,000,000	60,000,000
Upper Sans Poil	Road to Republic	13,000,000	10,000,000	15,000,000	10,000,000	50,000,000
St. Peter Creek	Road to Curlew Valley	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
Long Alex Creek	Road to Curlew Valley	15,000,000	15,000,000	10,000,000	10,000,000	50,000,000
Deer Creek	Road to Kettle River	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
Lone Ranch Creek	Road to Kettle River	10,000,000	10,000,000	10,000,000	10,000,000	40,000,000
Little Boulder Creek	Flume to Kettle River	10,000,000	10,000,000	5,000,000	5,000,000	30,000,000
Boulder Creek	Flume to Kettle River	50,000,000	30,000,000	25,000,000	20,000,000	125,000,000
Deadman Creek	Flume to Kettle River	45,000,000	25,000,000	25,000,000	15,000,000	110,000,000
Sherman Creek	Flume to Columbia	40,000,000	35,000,000	35,000,000	20,000,000	130,000,000
Pierre Division		50,000,000	35,000,000	25,000,000	20,000,000	130,000,000
Total		644,000,000	461,000,000	482,000,000	259,000,000	1,846,000,000

List of Woody Species

The following plants were observed growing in the north half of the former Colville Indian Reservation:

Trees

1. *Abies grandis*
2. *Abies lasiocarpa*
3. *Pinus murrayana*
4. *Pinus ponderosa*
5. *Picea engelmanni*
6. *Picea parryana*
7. *Pseudotsuga*
8. *Larix occidentalis*
9. *Larix lyallii*
10. *Thuja occidentalis*
11. *Salix amygdaloides*
12. *Salix fluviatilis*
13. *Salix nuttallii*
14. *Populus tremuloides*
15. *Populus trichocarpa*
16. *Populus deltoides*
17. *Betula occidentalis*
18. *Alnus tenuifolia*
19. *Amelanchier alnifolia*
20. *Prunus demissa*
21. *Prunus emarginata*
22. *Acer glabrum*
23. *Acer macrophyllum*
24. *Rhamnus purshiana*

Shrubs

1. *Clematis ligusticifolia*
2. *Berberis repens*
3. *Philadelphus lewisii*
4. *Ribes floridum*
5. *Ribes cereum*
6. *Ribes lacustre*
7. *Holodiscus discolor*
8. *Purshia tridentata*
9. *Rosa nutkana*
10. *Rosa gymnocarpa*
11. *Rubus strigosus*
12. *Rubus leucodermis*
13. *Spiraea lucida*
14. *Ceanothus velutinus*
15. *Ceanothus sanguineus*
16. *Cornus stolonifera*
17. *Cornus nuttallii*
18. *Arctostaphylos uva-ursi*
19. *Vaccinium occidentale*

20. *Lonicera involucrata*
21. *Sambucus glauca*
22. *Symphorocarpus occidentalis*
23. *Symphorocarpus racemosa*
24. *Artemisia frigida*
25. *Artemisia tridentata*

Industries

Farming is the chief industry in the Colville country. Stock raising is second in importance and mining third.

As yet the agricultural possibilities of this region are recognized by very few. Even the settlers now cultivating some of the valleys have little conception of what the land will produce or what is actually being produced in the next township.

The land adapted for farming is of three kinds, first, the interior valley land (old lake beds, beaver meadows and the like) where sufficient rain falls to insure crops of wheat; second, interior bench lands with rich, deep soils, lying on the mountain sides and receiving plenty of moisture but subject to early and late frosts, so that oats and rye, barley and timothy, with hardy vegetables are the staple crops. The third kind of land consists of the low-lying tracts along the Okanogan and Columbia rivers, which are susceptible of being irrigated, and when so treated will produce most anything in the way of fruit. The peaches, grapes, and melons grown here are unexcelled.

About 6,000 head of cattle, 4,000 sheep, and 3,500 horses are owned and range within the area examined, but only a very small proportion of this stock ever range upon the lands recommended for the reserve. Some 300 or 400 head of cattle have been using the hills above Aeneas Valley, 200 or 300 more stray up the creeks east of Curlew Valley, and a few small bunches wander back into the Buckhorn, Goosmus, and Mount Bonaparte divisions. Two bands of sheep range along the Okanogan, occasionally getting as far southeast as Aeneas Valley, sometimes as far north as Meyers Creek Basin. Several hundred wild horses are reported to run in the Kettle River and Republic ranges, but the only ones seen were on the slopes of Mount Bonaparte.

Owing to the rapidity with which this part of the State is being settled up it is reasonably certain that the number of stock for which permits will be wanted when the reserve is established will greatly exceed the number of animals now using the range. The permits will all be for small herds or bands as there are no large stockman in this locality.

Sheep should be permitted, for the present at least, only on the Buckhorn and Bonaparte divisions.

The range has not been overgrazed, as up to the present time there has been plenty of outside feed lower down and easier of access. The dates when stock should enter and

leave the reserve may be fixed the same as for the eastern division of the Washington Reserve.

Mining

Since 1895 the country around Republic has seen a great deal of mining activity. The California, the Mountain Lion, the Belcher, and the Hawkeye are the only mines now shipping any ore, and their shipments are very limited. It is presumed that the Belcher will use a lot of timber in the near future. The Hawkeye may also be expected to buy timber.

Settlements

Sheridan mining camp in the San Poil Division and Easter Sunday Mine in Pierre Division are the only places that deserve mention as settlements. Prospectors' cabins were found occupied in a number of gulches, but they could not be called settlers.

A number of important communities lie adjacent to the proposed reserve, among which may be mentioned the rich valley of the Okanogan, Curlew Valley, Kettle Falls, Marcus, and Northport. Just across the line in British Columbia are the mining towns of Grand Forks, Midway, and Cascade City. One of the largest smelters in the world is located at Grand Forks.

Road and Trails

Two railroads enter the proposed reserve, one, the Spokane Falls and Northern, crosses the Columbia at Marcus and follows up Kettle River to Grand Forks, B.C., thence up Curlew Valley to Republic. The other, a branch of the Canadian Pacific, also comes up this valley to Republic, but makes a circuit to the Mountain Lion Mine. A railroad is now being built up Lambert Creek to Belcher Mountain in order to get ore from the Belcher and Hawkeye mines. Another railroad is surveyed along Kettle River from Curlew post office to Midway, B.C. This will in all probability be constructed in the near future as contracts have been let for bridges. Much of the grading has already been done. The Great Northern is extending a road north from Wenatchee to Oroville on Lake Osoyoos. Still another railroad is being graded from Midway, B.C., to Oroville. This is reported to be a branch of the Canadian Pacific.

West of Republic wagon roads connect all of the little valleys, and a few trails have been blazed to prospects on the mountains. At one time there was a State wagon road across Kettle River Range, going through a gap near Copper Butte and following down Deadman Creek. This is now impassable, so that the only road crossing the range is the Sherman Road which follows up the upper San Poil, cuts through a gap north of Sherman Peak, and continues down the stream of the same name. A fairly good road runs south from Republic, down the San Poil, through the Colville Indian Reservation. Another extends from Kettle River to Pierre Lake and on to Easter Sunday Mine.

Trails have been cut out part way up the various creeks on both sides of Kettle River Range, but none of these are of much value as they do not connect. All are shown on the map accompanying this report. The trails needing most urgent attention are the old Sherman Trail and the Boulder Creek Trail, both of which were once used but are now grown up, full of windfalls, and in places destroyed by slides.

Lumbering

Within the area recommended for the reserve no lumbering of consequence has been conducted. A number of small mills are, however, operating in the vicinity. At the mouth of Dear Creek, near Curlew post office, there is a small mill. Others are located at Republic, Orient, Chesaw, and Northport.

Fires

Fires have recently done much damage to the forest on the Kettle River Range, also on Mount Bonaparte. This is to be regretted more as an injury to these important watersheds than as a loss of timber, though the latter is serious enough.

Patrol should begin on the lower slopes about the 15th of May and continue until October.

The most frequent cause of fires in this locality seems to be careless prospectors and hunters. Lightning also is a common cause, especially on the high ridges of the Republic and Kettle River ranges.

Sentiment

I found no decided opposition to the creation of a reserve which would include only the mountains and high timbered areas, but it was quite manifest that many people feared the inclusion of a great deal of agricultural land and even of entire valleys. On all sides was expressed a real desire to see the mountain forests protected from fire and the water supply preserved for irrigation.

Conclusions and Recommendations

After carefully examining the country and looking into conditions as they now exist, realizing to some extent the development about to take place and the future needs of this district, I have reached the following conclusions: To leave this timberland open to public entry and unprotected from fire will result, within a few years, in the complete control by three or four men of nearly all the available merchantable timber. High prices would naturally follow. The forests on the higher slopes would continue to suffer severe burning as they have the last few years, and the many streams, immensely valuable for irrigation, must, with the loss of their natural reservoirs, become unreliable and even

dangerous. The incoming of large numbers of stock will, under the present conditions, bring about the overgrazing of the range and reduce its value for the local settlers.

I, therefore, recommend that a forest reserve be established, to be known as the Colville Forest Reserve, with boundaries as shown on the accompanying map.

Administration Necessary

The administration force should consist of a supervisor and seven men, to be stationed as follows: The supervisor at Republic; one assistant ranger at Pierre Lake, assistant ranger No. 2 near mouth of Boulder Creek; No. 3 near mouth of Sherman Creek; No. 4 (Deputy Ranger) at Malo post office; No. 5 assistant ranger at Curlew post office; No. 6 in Meyers Creek Basin; No. 7 on upper Bonaparte Creek. In addition there should be, in dry seasons, a guard stationed in Aeneas Valley, one on lower Toroda Creek, and one near the California Mine.